UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/688,681	10/16/2000	Jochen Stinus	9092-0138	3611

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EXAMINER
CHANG, ERIC

ART UNIT	PAPER NUMBER
2116	

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>03 November 2003</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)   4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .   6) ☐ Other: .

DETAILED ACTION

1.   Claims 1-33 are pending.

Response to Arguments

2.   Applicant's arguments with respect to claims 1-33 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3.   The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4.   Claims 1-7 and 9-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,275,931 to Narayanaswamy et al., in view of U.S. Patent 6,378,068 to Foster, et al.

5.   As to claim 1, Narayanaswamy discloses a method for programming a device with a memory running a process, the method comprising deactivating a first memory area by prohibiting the process from accessing said first memory area, and activating a second memory area by allowing the process to access said second memory area [col. 5, lines 22-31]. Narayanaswamy teaches a device with an active and an inactive memory area. After the upgrade process, the active area is deactivated, and the device uses the previously inactive memory area for running its processes thereafter.

Narayanaswamy teaches all of the limitations of the claim, but does not teach changing from one device configuration to a second device configuration during on-line operation of the device; that is, without re-setting the device subsequent to the device configuration update.

Foster teaches that system configuration information may be changed without resetting the system [col. 3, lines 64-67], by temporarily placing the device into suspend mode during on-line operation of said device [Abstract]. Furthermore, Foster teaches that the configuration information is held within a memory area [col. 21, lines 42-50], and that a first and a second configuration to be applied to the system may be stored in said memory area [col. 27, lines 31-47]. Foster also teaches that operation of the device is resumed thereafter by bringing it out of the suspend mode, which does not involve resetting the system in order to utilize the new configuration settings [col. 36, lines 16-27].

At the time that the invention was made, it would have been obvious to a person of ordinary skill in the art to employ the non-resetting configuration update means as taught by Foster. One of ordinary skill in the art would have been motivated to do so that operation of the device can continue even after the new configuration had been applied.

It would have been obvious to one of ordinary skill in the art to combine the teachings of the cited references because they are both directed to the problem of updating the configuration of a device. Moreover, the exclusive switching between two memory areas means taught by Narayanaswamy would improve the robustness of Foster because it allowed the entire configuration to be changed in a single action by replacing one configuration set with another, instead of having to make discrete memory reads in order to retrieve the configuration information.

6.   As to claims 2 and 13-14, Narayanaswamy discloses running a configuration process to

store data in the second memory for modifying the configuration data of the second memory

[col. 3, lines 31-36]. Narayanaswamy teaches the boot code used to configure the device is

written to the second memory area.

7.   As to claim 3, Narayanaswamy discloses the configuration process is run from the first

memory area [col. 3, lines 30-31]. Narayanaswamy teaches the program from the first memory

area is used to operate the device; it is well known that such operations may include controlling

the configuration upgrade process, substantially as claimed.

8.   As to claim 4, Narayanaswamy discloses running a second configuration process to store

data in a third memory area [col. 6, lines 54-67, and col. 7, lines 1-8]. Narayanaswamy teaches

further upgrading the contents of a third memory area containing the main firmware.

9.   As to claims 5, 24 and 28-29, Narayanaswamy discloses allowing the configuration

process access to the second memory space to modify its configuration data, and allowing

general access to it thereafter [col. 3, lines 31-36]. Narayanaswamy teaches that the

configuration process can write to the second memory area. After the reset, general access to the

second memory area is available, because it would have become the active memory area [col. 3,

lines 44-47].

10.   As to claim 6, Narayanaswamy discloses storing the first device configuration in the

second memory area [col. 8, lines 25-27]. Narayanaswamy teaches that the device configuration

is stored to the second memory area, and that the configuration data is functionally equivalent to

the data stored in the first memory area [col. 8, lines 15-21], substantially as claimed.

11.   As to claims 7, 17-18, 23 and 25, Narayanaswamy discloses writing over a first branch

address referencing the first memory area with a second branch address referencing the second

memory area to activate the second memory area in a single write access [col. 3, lines 41-42].

Narayanaswamy teaches overwriting the vector table so that references to the configuration data

would reference the second memory area instead of the first memory area, substantially as

claimed. Narayanaswamy further teaches that the entire table is overwritten in a single step.

12.   As to claim 9, Narayanaswamy discloses copying the first device configuration from a

first memory area to the second memory area [col. 8, lines 1-4]. Narayanaswamy teaches

copying configuration data from a source into the second memory area; it would be obvious to

one of ordinary skill in the art that this source may be any other repository of the required

information, such as a first memory area, substantially as claimed.

13.   As to claim 10, Narayanaswamy discloses executing the first device configuration in the

first memory area during the copying step [col. 3, lines 30-31]. Narayanaswamy teaches the

program from the first memory area is used to operate the device; it is well known that such

operations may include controlling the configuration upgrade process, substantially as claimed.

14.   As to claims 11-12, 15-16 and 26, Narayanaswamy discloses a method for programming

a device with a memory running a process, the method comprising deactivating a first memory

area containing a device configuration by prohibiting the process from accessing said first

memory area, and activating a second memory area by allowing the process to access said

second memory area [col. 5, lines 22-31]. Accordingly, Narayanaswamy also teaches that one of

the memory areas is active and another of the memory areas is inactive, and that the active

memory area is readable in order to execute the program contained therein. Because

Narayanaswamy teaches the method, Narayanaswamy teaches an apparatus comprising a

microprocessor and a memory circuit comprising a plurality of selectively activated memory area

storing program implementing said method, substantially as claimed.

15.   As to claims 19-21, Narayanaswamy discloses the memory circuit is a non-volatile

memory such as an EEPROM [col. 4, lines 61-62]. Furthermore, it is well known in the art that

power is needed to operate such a device, and that such power may come from an energy storage

device, substantially as claimed.

16.   As to claim 22, Narayanaswamy discloses a method for programming a device

comprising:

       [a] using an active first memory area storing a first programmable configuration, and

       having an inactive second memory area [col. 1, lines 57-67];

[b] configuring the second memory area with a modification of the programmable

configuration [col. 3, lines 31-36]; and

[c] deactivating a first memory area storing a first programmable configuration, and

activating a second memory area by allowing the process to access said second memory

area [col. 5, lines 22-31].

In addition, Narayanaswamy teaches that the modification of the configuration of the

second memory area is coordinated under control of the first memory area prior to the activation

of the second memory area. Narayanaswamy teaches the code in the existing active memory

area controls the upgrading of the contents of the inactive memory area, and that after the

upgrade process successfully completes, the previously inactive memory area becomes the new

active memory area [Abstract], substantially as claimed.

17.   As to claim 27, Narayanaswamy discloses a method executed by code in a first memory

area for transferring program code to a second memory area over a data transmission

mechanism, after which the newly transferred code in the second memory area is executed [col.

5, lines 14-44]. Narayanaswamy teaches modification of the configuration of the second

memory area is coordinated under control of the first memory area prior to the activation of the

second memory area. Narayanaswamy also teaches the code in the existing active memory area

controls the upgrading of the contents of the inactive memory area, and that after the upgrade

process successfully completes, the previously inactive memory area becomes the new active

memory area [Abstract], substantially as claimed. Furthermore, Narayanaswamy teaches that the

data transmission mechanism may comprise a direct PC link and/or access to the internet, in

order to retrieve the program code for the second memory area.

18.   As to claim 30, Narayanaswamy discloses that deactivating the first memory area

precludes read access to said first memory area [col. 5, lines 22-31].

19.   As to claims 31-33, Narayanaswamy discloses a sensor system for detecting a process

variable, such as a checksum value, and communicating said measurement to a monitoring

system via an interface [col. 6, lines 12-38]. Narayanaswamy teaches that the upgrade process is

monitored by a PC, and that the PC receives the confirmation of a successful checksum

following the upgrade of the memory area. Narayanaswamy further teaches the communications

interface [col. 5, lines 14-21], substantially as claimed.

20.   Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent

6,275,931 to Narayanaswamy et al. in view of U.S. Patent 5,327,531 to Bealkowski et al., and in

further view of U.S. Patent 6,378,068 to Foster, et al.

21.   As to claim 8, Narayanaswamy and Foster teach all of the limitations of the claim, but

does not teach that deactivating the first memory area upon the occurrence of a hardware or

software failure in the first memory area and activating the second memory area thereafter.

Bealkowski teaches detecting an error state in a device caused by a corrupted first memory area, and switching to a second memory area in order to continue operating the device [col. 5, lines 4-22].

At the time that the invention was made, it would have been obvious to a person of ordinary skill in the art to employ the error detection means as taught by Bealkowski. One of ordinary skill in the art would have been motivated to do so to detect if the configuration data of a device is no longer suitable for usage.

It would have been obvious to one of ordinary skill in the art to combine the teachings of the cited references because they are both directed to the problem of booting a device with a first and second memory area containing configuration data. Moreover, the error detection means taught by Bealkowski would improve the robustness of Narayanaswamy and Foster because it allowed an alternate memory area to be used if the first memory area is corrupted or has failed.

Conclusion

22.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37
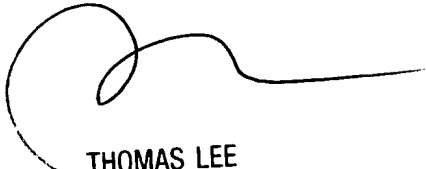
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

23.　　Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Chang whose telephone number is (703) 305-4612. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on (703) 305-9717. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

ec

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